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THE EFFECT OF A WEIGHT TRAINING PROGRAM ON THE AFFECTIVE STATUS OF RECOVERING SUBSTANCE ABUSERS#

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SUMMARY

The effects of a weight training program on depression in a group of chemically dependent adults was investigated. The subjects (N=18) were inpatients rehabilitatied for substance abuse (Therapeutic Community) for one year. They were randomly assigned to two groups. The experimental group (N=12) received a weight training program (bodybuilding) of three days per week for eight weeks. The control group (N=6) received no exercise treatment over the 8-week period. Pre- and posttest measures included the BDI-II questionnaire. The bodybuilding program did not produce a significant decrease in depressive symptoms.

Key words: Depression, weight training program, substance abuse, exercise

ÖZET

BİR AĞIRLIK ANTRENMANI PROGRAMININ MADDE BAĞIMLILIĞI TEDAVİSİ GÖRENLERİN HASTALIK DURUMUNA ETKİSİ

Bir ağırlık antrenmanı programının kimyasal madde bağımlılığı bulunan yetişkinlerdeki depresyona etkisi araştırıldı. Denekler (N=18) madde kullanımı nedeniyle bir yıldır yatarak tedavi görenlerdi (toplu tedavi grubu).

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Rastgele olarak iki gruba ayrıldılar. Deneysel grup (N=12) bir ağırlık antrenmanı programını (vücut geliştirme) sekiz hafta boyunca üç kez uyguladı. Kontrol grubu (N=6) bu süre boyunca herhangi bir egzersiz yapmadı. Test öncesi ve sonrasında Beck Depresyon Envanteri (BDI-II) uygulandı. Sonuç olarak, vücut geliştirme programı depresyon semptomlarında anlamlı bir gerilemeye neden olmadı.

Anahtar sözcükler: *Depresyon, ağırlık antrenmanı, madde bağımlılığı, egzersiz*

INTRODUCTION

Two important organizations, namely the American National Institute of Mental Health (NIMH) (26), and the International Society of Sports Psychologists (ISSP) (20) investigating the influence of exercise on the psychological disposition of people claimed that exercising seems to reduce mild or moderate depression (28). Many studies investigated the influence of exercise on the symptoms of adult, teenage and infantile clinical depression (11,13,19,21,22). The influence of aerobic exercise (running) (5,17,18,23,24,29,33) was also studied, as well as the influence of anaerobic exercise on the decrease of depression (13,27,35). A series of researches performed on depressed individuals using the BDI scale (Beck Depression Inventory) revealed symptoms improvement through participation in aerobic programs (8,17,25,33). Improvement of depression levels in two groups was reached through mixed programs of exercise (aerobic – anaerobic) (24,27).

In groups of substance abusers (alcohol), aerobic exercise seemed to have helped in reducing depression (15,31,37). A positive influence of sports on substance abusers with a mixed protocol (aerobic and anaerobic exercise) is cited in the studies by Palmer et al (30), and Caplan (9). Collingwood et al (10) concluded that depression decreased after an aerobic exercise program applied on substance abusers. Franklin (16) conducted a similar study, the findings of which revealed only influence on the participants' physical condition and not on their depression levels.

MATERIAL AND METHODS

The purpose of this study was to investigate the influence of exercise with increased resistance (weight lifting) on the depression level in members of a restricted detoxification from drugs program, in which 18 men participated voluntarily. Two groups were formed, the experimental

group (N=12, average age of 29.4 years) and the control group (N=6, average age of 25.7 years). During the study, four members of the experimental group left due to health reasons, so the experimental group ended up with eight individuals of an average age of 30.4 years. The program's total duration was eight weeks. The exercise frequency was three times per week, with multiple variable intensity sets of maximal and sub-maximal intensity.

For the present study, the BDI – II scale (Beck Depression Inventory) (1,4,32) was used to measure the level of depression. This is a scale that can trace the degree of depression in normal (34) and clinically depressed populations (7), and has been used in substance abusers too (3). The reliability of internal cohesion varies between 0.48-0.86 for the clinical groups and between 0.60-0.90 for the non-clinical population. The validity in relation to an external criterion of clinical diagnosis is satisfactory (12).

RESULTS

In order to analyze the results of the questionnaire BDI-II, an independent t-test trial was conducted for both groups. T-test results for the experimental and control groups at the beginning of the study revealed that the BDI mean average initially of the two groups was 0.64±0.47 and 0.46±0.33 respectively. Further analysis showed that there were no statistically significant differences between the two groups in the initial BDI-II readings (t=0.78, df=12, two-tailed p=0.45). T-test results for the two groups following after the experimental intervention disclosed that the mean average values were 0.48±0.51 (experimental group), and 0.41±0.47 (control group). There were no statistically significant differences between the two groups in the final readings either (t=0.30, df=12, two-tailed p=0.77). Based on the t-test results for the dependent groups it was concluded that there was no statistically significant differences between the mean averages [t(0.73)=0.49, p>0.05] of the experimental group before and following the intervention. The results for the control group were similar [t(0.53)=0.62, p>0.05].

DISCUSSION

Based on the initial readings a 57% of the participants had mild to severe depression, while at the end of eight weeks 50% of all the participants in the study had mild to moderate depression. Based on the mean averages, and the typical deviations for the two groups there

is a great variation in the depression levels of the participants of the two groups. This is not strange though, because it has been noted that substance abusers present frequently such distribution during therapy for Major Depression Disorder (3). There are data, which reveal that in a sample of male abusers, 70% had a score of more than 14, and a 50% had a score of above 21 in the BDI-II scale (6). It has to be stressed that there was no other diagnosis tool for the emotional state of the study participants apart the BDI-II evaluation. Another reason why we should approach the study results with reservation is the fact that a series of everyday situations can change the scale score. Various studies have disclosed that people who are undergoing a detoxification program present equal or higher BDI-II mean averages than populations undergoing therapy according to Axis I (DSM-IV) (2,36), as well as that they present higher mean averages compared with other clinical populations, as people with stress disorder 1, or people who are considered normal (14).

In the present study, data processing showed that there is no reduction of the depression level (which according to the study was shown to be mild to moderate) in either the experimental group or the control groups. This finding is in opposition with the results from two large organizations [namely, the American National Institute of Mental Health NIMH (26), and the International Society of Sport Psychology (20)], which after reviewing numerous research concluded that exercise seems to influence positively mild and average depression. In a study conducted by Collingwood et al, (10), an aerobic exercise program seemed to decrease depression in a group of teenagers who were undergoing detoxification programs. Mutrie (27) observed non-decrease of depression in an anaerobic exercise group when he used an aerobic and anaerobic exercise program. The present study results do not agree with those of Palmer and associates (30), who used a mixed exercise protocol (aerobic and anaerobic exercise – cyclic training) in 45 patients who were undergoing a detoxification program, and who proved that depression was reduced in all individuals participating in the exercises, with a notably statistically significant decrease only in those who were exercising with the anaerobic program (weight lifting).

The main conclusion is that the eight week bodybuilding program we used did not produce a significant decrease in depressive symptoms of the chemically dependent adults.

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